Lake Okeechobee Tributaries TMDLs
Summary of Comments

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Responsiveness Summary

EPA Region 4 received comments on the proposed "Total Maximum Daily Load (TMDL) for Biochemical Oxygen Demand, Dissolved Oxygen, Nutrients and Unionized Ammonia in the Lake Okeechobee Tributaries," proposed in September 2006, from over 100 private citizens, state and local agencies and industries and their representatives. These comments were reviewed and sorted into groups of similar comments, which are responded to below.

EPA proposed TMDLs for impaired WBIDs located both north and south of Lake Okeechobee. After consideration of public comments, EPA is finalizing TMDLs for those WBIDs located north of the lake. EPA is also establishing allocations to the WBIDs south of Lake Okeechobee to the extent that those WBIDs act as tributaries to the Lake. Thus, this TMDL allocates loads to pump structures that have the potential to back pump flood waters into Lake Okeechobee (i.e., S-2, S-3, and S-4 basins). The loads allocated to these pump structures are consistent with the loads assigned in the Lake Okeechobee Protection Plan (LOPP).

EPA concurs with the public comment that waters south of the Lake in the Everglades Agricultural Area (EAA) are hydrologically different than waters north of the Lake and, therefore, different TMDL targets are appropriate for instream protection of those Lake Okeechobee WBIDs that are located in the EAA. EPA intends to finalize the TMDLs for those WBIDs located in the EAA when it finalizes TMDLs for the more similar waters addressed in the EAA TMDL proposed in September 2007.

Comments and Responses:

1. **Comment:** EPA misinterpreted the State of Florida's narrative criteria. The method used for setting numeric criterion for nutrients is not based on ecological health or biological response in the stream. By basing the target concentrations on the average of 3 methods, all of which have major flaws, the TMDL is not scientifically defensible and will not withstand an administrative challenge. For example, the selection of the 25th percentile concentrations results in values lower than the reference site approach, implying concentrations lower than natural background which is strictly forbidden by Florida law.

Response: In the proposed TMDL, EPA solicited comments on nutrient (TN and TP) targets based on the convergence of three methods, and acknowledged the ongoing work FDEP was conducting to refine these targets using reference conditions. FDEP's reference condition approach was one of the three methods EPA considered in developing the proposed nutrient targets. Since the TMDLs were proposed in September 2006, FDEP refined the nutrient targets using EPA's Ecoregion Reference Condition approach, applied it to the Central Peninsula Bioregion, and projected a range of nutrient values that the State considers protective of aquatic life in streams of that bioregion (FDEP, 2007). EPA considered this approach to developing a TP target a better interpretation of Florida's narrative water quality standard (WQS) than the approach used in the proposed TMDLs.

The reference approach described in the FDEP Technical Support Document (FDEP, 2007) results in a proposed range of values for TP of 84 ug/L to 128 ug/L. In this document, FDEP states that it is very confident the native flora or fauna are fully protected within these ranges of concentrations. EPA selected a TP target of 113 ug/L as an annual average concentration within the WBIDs to protect aquatic life in the tributaries. To ensure protection of downstream uses, TP loads consistent with those prescribed in the LOPP are assigned at the pour point of the WBIDs comprising an LOPP basin.

A TN target of 1.2 mg/L as an annual average concentration within the WBIDs was selected to protect aquatic life in the tributaries and to protect the downstream uses. This value is slightly below the lower value in the range of TN values provided by FDEP to protect of aquatic life in the tributaries. The lower value of 1.2 mg/L was selected based on an interim TN target for the St. Lucie Estuary of 0.74 mg/L at the Roosevelt Bridge provided by FDEP in a recent (June 3, 2008) memorandum (FDEP, 2008)**.** EPA reviewed TN data from Lake Okeechobee, the C-44 canal and the St. Lucie Estuary to determine a TN target for the tributaries that would achieve the interim TN target proposed by FDEP for the St. Lucie estuary. This target determination takes into account assimilation of TN in the surface water system between Lake Okeechobee and the St. Lucie Estuary and dilution of TN with the tidal system. Based on the best currently available information, a value of 1.2 mg/L annual average TN protects aquatic life in the tributary WBIDs provides protection of downstream uses. Additional information on the derivation of the TN target analysis is provided in Appendix B of the TMDL report.

EPA considers the State's approach to have considerable technical merit, and encourages the State to continue refinement of the approach. For purposes of this TMDL, EPA views the preliminary values projected from the process to represent the best information currently available on a level of nutrients protective of aquatic life in streams of the Central Peninsula Bioregion of Florida. EPA is using these values in conjunction with other factors to assure downstream use protection in choosing appropriate targets for this TMDL.

2. **Comment:** Waterbodies north and south of Lake Okeechobee are Class IV waters but the TMDL inappropriately assigns Class III standards to these waters.

Response: The WBIDs for which EPA is establishing TMDLs are all designated as Class III waters.

3. **Comment:** EPA violates the Data Quality Act (DQA) by including data collected at groundwater sites, rainfall sites, and Class IV waters. In addition, data used in the analysis included negative values, zero values and values below the minimum detection limit.

Response: The state of Florida has an EPA-approved Quality Assurance Project Plan (QAPP) for its ambient monitoring program. It is our understanding that compliance with the QAPP ensures the integrity of the water quality data made available to EPA and the public. The final TMDL targets are based on FDEP's adaptation of EPA's Ecoregion Reference Condition approach and not on a percentile of the all-stream dataset, which was one of the methods EPA used in the proposed TMDLs. Water quality data collected in these reference streams were used to derive nutrient targets that FDEP is confident will protect the native flora or fauna. FDEP

verified in the Technical Support Document that water quality data used to characterize the reference streams represents instream concentrations and not groundwater sites, rainfall sites, or Class IV waters.

4. **Comment:** EPA should voluntarily prepare a National Environmental Policy Act (NEPA) Environmental Assessment (EA) or Environmental Impact Statement (EIS) for the tributaries before developing TMDLs. EPA is legally obligated to prepare an EA or EIS in all research and development activities as well as when the agency issues NPDES permits. Because permit limits are determined from TMDLs, the environmental impacts of the proposed TMDLs should be taken into consideration as a whole, before the discharge limits are set.

Response: TMDLs are not major federal actions requiring EAs or EISs under the National Environmental Policy Act. NEPA requires the federal government to use all practicable means to create and maintain conditions under which man and nature can exist in productive harmony. Section 102 of NEPA requires federal agencies to prepare detailed statements assessing the environmental impact of and alternatives to major federal actions significantly affecting the environment. These statements are commonly referred to as environmental impact statements (EISs). How NEPA and the Clean Water Act interact is addressed in section 511 of the CWA, which identifies those CWA actions that are deemed to be "major federal actions" and, therefore, subject to NEPA requirements. Except where EPA provides financial assistance to help construct publicly owned treatment works or issues NPDES permits to new sources, no EPA action taken pursuant to the CWA is deemed to be a major federal action for NEPA purposes. See 33 U.S.C § 511(c)(1). Therefore, EAs or EISs are not required for TMDL activities.

5. **Comment:** The TMDL has a potentially negative effect on current and proposed state projects for protecting water quality. Specifically, the USEPA uses the out-of-date 1998 Impaired Waters List; and undermines the newly enacted Everglades Watershed Restoration Act.

Response: EPA's schedule for development of TMDLs in the state of Florida is established in the 1999 Consent Decree in the Florida TMDL lawsuit. See Florida Wildlife Federation, et al. v. Carol Browner, et al., No. 4: 98CV356-WS (N.D. Fla., Tallahassee Division, April 22, 1998). EPA is not ignoring the state TMDL process, but the Consent Decree requires EPA to develop TMDLs by date certain, if the state has not already established such TMDLs. The Consent Decree schedule for TMDL development is based on the 1998 303(d) list but also provides that EPA need not propose TMDLs for any water quality limited segments that are determined not to need TMDLs. This determination can be made based on a demonstration that a water is again meeting standards or based on changes in water quality standards. For example, the state of Florida recently dropped its WQS for total coliform; therefore, EPA and the State no longer develop TMDLs for total coliform. TMDLs can be modified at any time based on new data or scientific information. The TMDLs are also established to work together with the Lake Okeechobee Protection Plan and the Everglades Watershed Restoration Act. The TMSLs for the tributaries discharging to Lake Okeechobee are based on both achieving the annual loads allocated in the Lake Okeechobee TMDL and on protecting aquatic life in the tributaries themselves. The nutrient concentrations targeted in the TMDL achieve WQS in the tributaries. The TMDL also assigns loads to the pour point of each LOPP basin which are consistent with

the allocations set out in the LOPP. EPA anticipates these loads will be achieved through the treatment options proposed in the LOPP to implement the TMDL for Lake Okeechobee

6. **Comment:** The TMDLs will result in economic hardship on farmers and drive them out of business.

Response: The intent of the TMDLs is not to penalize businesses in the watershed but to set limits that will not degrade water quality in the streams based on the standards established by the state of Florida. The Clean Water Act forbids any industry or municipality from causing or contributing to water quality impairment. The Lake Okeechobee watershed is stressed from years of neglect and poor water quality management.

7. **Comment:** The three approaches used to derive the nutrient targets and the averaging of the results of these approaches does not meet the 40 ppb TP goal for the lake.

Response: The nutrient targets established for the tributaries are protective of ecological health in the tributaries themselves. The TP target in the tributaries TMDL and the concentration in the Lake Okeechobee TMDL of 40 ppb are not comparable. As set out more fully in the Lake Okeechobee Protection Plan, the water discharging from the tributaries will be routed through stormwater treatment areas or reservoirs before it discharges into the lake. These treatment options are designed to implement the Lake Okeechobee TMDL by further reducing the concentration of TP in the water discharged from the tributaries into the Lake.

To ensure compliance with the Lake Okeechobee TMDL, this TMDL assigns average annual TP allocations to each LOPP basin at the basin's pour point into the Lake. These allocations are consistent with the load allocations set out in the LOPP and are in addition to the instream TP concentration that this TMDL establishes to protect the tributaries themselves. Although the instream concentration established by this TMDL in the tributaries is 113 ppb, the average annual load which may be discharged from each basin into the Lake cannot exceed the load allocated at the pour point of a basin. For example, WBID 3204 encompasses the entire LOPP C-41 basin and is prescribed an annual average TP load of 6.17 metric ton/yr. This load is based on an annual discharge of 49,799 acre-ft/yr. If this discharge was used to calculate the TMDL load using a TP concentration of 113 ppb, the annual average TP load out of the basin at the pour point would be 6.94 metric ton/yr. However, EPA anticipates that additional, intervening treatment mechanisms such as STAs and reservoirs, installed pursuant to the LOPP, will further reduce the TP load out of the basin to 6.17 metric ton/yr.

Either additional BMPs or some other intervening treatment mechanism is necessary in most of the LOPP basins in order to achieve the LOPP load assigned to those basins. BMPs and a source control regulatory program will be implemented throughout the entire watershed including all listed WBIDs (SFWMD, 2008). In addition, FDEP is proposing intervening treatment for some of the LOPP basins (SFWMD, 2004). These projects are at varying stages in the process (e.g., some will undergo feasibility studies, while others will be under construction soon).

8. **Comment:** EPA is proposing TMDLs for waters that are not impaired by FDEP.

Response: The WBIDs subject to this TMDL were included on FDEP's 1998 section 303(d) list and have not been removed from that list by FDEP. The Consent Decree schedule requires EPA to propose and establish TMDLs for waters on Florida's 1998 section 303(d) list by date certain, if FDEP has not established TMDLs before such date.

The Consent Decree does not require EPA to propose TMDLs for waters that are removed from any future section 303(d) list consistent with the provisions of the CWA. FDEP submitted to EPA a Group One Update to the 1998 303(d) list in 2002 and amended that submission in May 2003. The current section 303(d) list for the state of Florida consists of the 1998 list, EPA-approved Group One additions by FDEP, EPA-approved delistings from that list by FDEP and EPA additions to Group One. None of the WBIDs subject to these TMDLs have been removed from the 1998 303(d) list by FDEP.

The Consent Decree also does not require EPA to propose TMDLs for waters that are determined not to need TMDLs consistent with section 303(d) of the CWA. Prior to developing these allocations, EPA reviewed all readily available data and made an independent assessment of the attainment status of the waters. TMDLs were not prescribed for waters meeting WQS, rather EPA determined that such waters did not need a TMDL

9. **Comment:** What is EPA's rationale for proposing TMDLs beyond Consent Decree requirements? Many of the TMDLs are developed for waterbodies not located in tributaries addressed in the Consent Decree.

Response: The state of Florida uses Water Body IDentification (WBID) numbers to list waterbodies on the 303(d) list. Often a WBID may contain one or more tributaries, but because the list is based on WBID numbers and not stream name, the TMDL is proposed for the WBID. All of the TMDLs prescribed in the document are for WBIDs included on Florida's 1998 303(d) list. In some cases, the state of Florida has subdivided WBIDs into multiple WBIDs. EPA is prescribing TMDLs to cover the area originally included on the 1998 list.

10. **Comment:** The legal status of EPA-generated TMDLs is not clear. Neither the Florida Watershed Restoration Act nor the consent decree addresses TMDL implementation. While the TMDL represents a plan it does not contain legal mechanisms that will reduce pollution. We expect that this lack of clarity with regard to the legal status and effect of EPA-proposed TMDLs will delay even further the implementation of desperately needed TMDLs in the Lake Okeechobee tributaries.

Response: Although the TMDLs are being finalized by EPA, they will be implemented by the State of Florida through their Basin Management Action Plan (BMAP) process. Section 303(d) of the CWA does not establish any new implementation authorities beyond those that exist elsewhere in state, local, tribal, or federal law. Thus, point sources implement the wasteload allocations within TMDLs through enforceable water quality-based discharge limits in NPDES permits authorized under section 402 of the CWA. Nonpoint sources implement the load allocations within TMDLs through a wide variety of state, local, tribal, and federal programs (which may be regulatory, non-regulatory, or incentive-based, depending on the program), as well as voluntary action by committed citizens. The TMDL document represents a plan

prescribing the needed reductions in pollutant loadings that will achieve WQS in the tributaries. In 2007, the state of Florida passed the Watershed Protection Act (SB392) that provides funding to implement the Lake Okeechobee and river watershed plans. This Act, combined with other state and local pollution control authorities, represents the legal mechanism under which implementation of the TMDLs should occur.

11. **Comment:** Any new Environmental Resource Permits should contain a mandatory regulatory BMP component that specifically includes conditions that prevent any offshore drainage of water.

Response: Environmental Resource Permits are state-issued permits and EPA has no oversight role as to the conditions of these permits. FDEP will be responsible for implementing the TMDLs and will likely rely on the control strategies outlined in the LOPP, together with other state and local pollution control authorities, to prevent poor water quality from discharging into the downstream estuaries.

12. **Comment:** There is concern that EPA is in violation of the Endangered Species Act consultation requirements in developing the proposed TMDLs. The proposed TMDL is silent with regard to the impacts of the TMDLs on endangered species in Caloosahatchee River and Estuary.

Response: The TMDLs are protective of endangered species by establishing pollutant concentrations that achieve WQS. An assumption of the TMDLs is if WQS are achieved in the tributaries the pollutant loadings to Lake Okeechobee and the downstream estuaries will be significantly reduced, thus protecting endangered species.

13. **Comment:** It is not appropriate to set nutrient targets for the waters in the Everglades Agricultural Area equivalent to the targets set for waters north of the lake.

Response: EPA concurs with the public comment that waters south of the Lake in the Everglades Agricultural Area (EAA) are hydrologically different than waters north of the Lake. EPA is making allocations to some WBIDs south of the Lake, to the extent that those WBIDS act as tributaries to the Lake through pump structures that have the potential to back pump flood waters into Lake Okeechobee (i.e., S-2, S-3, and S-4 basins). The loads allocated to these pump structures are consistent with the loads assigned in the Lake Okeechobee Protection Plan (LOPP). EPA agrees that different TMDL targets are appropriate for instream protection of those Lake Okeechobee WBIDs that are located in the EAA. EPA intends to finalize the TMDLs for those WBIDs located in the EAA when it finalizes TMDLs for the more similar waters addressed in the EAA TMDL proposed in September 2007.

14. **Comment:** The passage of the 2007 Watershed Protection Act (SB 392) states that implementation of the Lake Okeechobee and River Watershed Plans and related BMAPs provide a reasonable means of achieving the TMDLs and maintaining compliance with state WQS. EPA's proposed nutrient TMDLs will undermine this comprehensive legislation and legislative efforts to have the water cleaned before it reaches Lake Okeechobee and the

estuaries, by setting nutrient effluent limits for the water before it reaches the proposed regional treatment sites.

Response: The TMDLs are designed to work together with Florida's ongoing efforts to achieve water quality standards in Lake Okeechobee. EPA has made allocations to the tributaries at the pour point of those tributaries into the Lake, anticipating that Florida's plans to build regional treatment sites around Lake Okeechobee will achieve the nutrient reductions necessary to meet the requirements of the Lake Okeechobee nutrient TMDL.

15. **Comment:** The proposed TMDLs are insufficient and will not benefit the Caloosahatchee Estuary in a significant way for two years. The proposed TMDLs do not decrease the nutrients in discharges to the Caloosahatchee and fails to address loads to the Caloosahatchee from C-43 Basin.

Response: EPA did not include this basin in the Lake Okeechobee tributary TMDLs as it was not on the Consent Decree schedule. Implementation of the tributary TMDLs should result in reduced nutrient loadings to Lake Okeechobee which should reduce the loadings delivered to the downstream estuaries. The Florida Legislature is requiring FDEP to develop a TMDL for the C-43 basin (Caloosahatchee River) by December 31, 2008. EPA recommends that FDEP consider revising these TMDLs, as necessary, to the extent the Caloosahatchee River TMDL identifies the need for further reductions from the Lake Okeechobee tributaries.

16. **Comment:** EPA's approach to deriving nutrient targets by averaging 3 independent methods is not scientifically defensible, and would not withstand an administrative challenge.

Response: In the proposed TMDL, EPA solicited comments on the method of targeting the line of evidence approach. EPA noted that FDEP was developing nutrient targets using an Ecoregion Reference Condition approach that may result in nutrient concentrations representative of actual biological condition, and relied on FDEP's work as one of the methods in established the proposed target for these TMDLs. While FDEP's criteria development process is ongoing and incomplete, the state has offered EPA certain preliminary information for consideration as targets for the tributary TMDLs. Since these TMDLs were proposed, FDEP adapted the EPA Ecoregion Reference Condition approach, applied it to the Central Peninsula Bioregion, and projected a range of nutrient values that the state considers protective of aquatic life in streams of that bioregion (FDEP, 2007). EPA considers the state's approach to have considerable technical merit, and while EPA encourages the state to continue refinement of the approach, EPA views the preliminary values projected from the process to represent the best information currently available on a level of nutrients protective of aquatic life in streams of the Central Peninsula Bioregion of Florida. As a result, EPA is finalizing the TMDLs using a TP target selected from FDEP's approach and a TN value based on FDEP's preliminary target for the St. Lucie Estuary. See the response to comment #1 for additional detail.

17. **Comment:** EPA has re-opened the previously approved Lake Okeechobee TMDL and has re-allocated the allowable load by prescribing TN allocations without justification.

Response: EPA has not revised the Lake Okeechobee nutrient TMDL. Rather, EPA is establishing TN allocations for select tributaries to Lake Okeechobee to protect the instream quality of the tributaries themselves as well as downstream waters in the St. Lucie estuary. These allocations do not address the TN loads into Lake Okeechobee except to the extent discharges from the tributaries pass through the Lake to the estuary. The tributaries are assigned TN and TP allocations necessary to achieve WQS that account for both near and far field effects.

18. **Comment:** The methods used by the EPA to propose the TMDLs are contrary to the state-adopted and EPA-approved narrative nutrient criterion for water quality. We would like to note the concerns expressed by the FDEP in its April 2007 draft Technical Support Document on the Deviation of the Numeric Nutrient Thresholds for TN and TP in Lake Okeechobee Tributaries. The FDEP indicates its "serious concerns regarding the scientific defensibility of this method".

Response: EPA considers FDEP's approach to have technical merit and EPA is finalizing the TMDLs for the tributaries using a TP target selected from the range of values presented in the Technical Support Document and a TN target that is protective of downstream uses. Please see the response to question #1 for more detail on derivation of the nutrient targets.

19. **Comment:** If EPA adopts the proposed tributary TMDLs and re-allocates the Lake Okeechobee phosphorus TMDL, these should be adopted as phased TMDLs.

Response: EPA is not re-allocating nutrient concentrations or loads to Lake Okeechobee. Rather, the TMDLs developed for the tributaries compliment the established TMDL for the Lake by allocating loads consistent with those outlined in the Lake Okeechobee Protection Plan. Although the TMDL is not referred to as a phased TMDL, implementation will likely occur in phases. Once a TMDL is approved it can be re-opened at any time, as necessary, to take into account new data and new scientific techniques.

20. **Comment:** Submission of new data requires a new comment period. On May 8, 2007 EPA transmitted to interested parties new data that EPA is relying upon for the proposed TMDLs. Up until that point, U.S. Sugar was reviewing the database that EPA provided in September 2006. Because of the highly technical nature of the proposed TMDL, U.S. Sugar has begun the data review process all over again utilizing the May 8th data. Because of the late data that EPA provided this data, there is insufficient time to review and conduct a comparison of the two datasets before the May 31, 2007 close of the public comment period. This is a violation of the requirements contained in the Administrative Procedure Act. EPA's reliance on the May 8th dataset, to support its proposed TMDL is contrary to law and arbitrary and capricious and will not withstand an administrative challenge.

Response: Florida's IWR database is accessible to the public through their website and EPA and other interested parties are able to down load the data at any time. In the final TMDLs, EPA is relying on a TP target identified by FDEP as protective of WQS in the tributaries and a TN target that is protective of downstream uses. EPA solicited comment on the method developed by FDEP in the 2006 proposal; FDEP's current TP target is based on a refinement of that method, based on additional data and information developed by the state. The TP target is

projected from a distribution of data collected in streams identified by FDEP as Reference Streams based on high levels of biological integrity and low levels of human disturbance. The TN target, in both EPA's proposal and this TMDL, is based on both protection of instream water quality in the tributaries and protection of downstream uses in the St. Lucie estuary.

21. **Comment:** The proposed TMDLs are disruptive of the State's much broader and comprehensive watershed plan and will misdirect limited resources to activities in waterbodies that are not impaired or are a much lower priority.

Response: The proposed TMDLs are for waters included on the 1998 303(d) list and all have a high priority. EPA does not consider the TMDLs disruptive to the State's watershed plans as the TMDLs provide a target for achieving WQS in the individual tributaries and rely on the control strategies identified in the comprehensive Lake Okeechobee watershed plan for implementation.

22. **Comment:** EPA should defer to the state of Florida's schedule for TMDL development in EAA WBIDs.

Response: EPA's schedule for development of TMDLs in the state of Florida is established in the 1999 Consent Decree in the Florida TMDL lawsuit. See Florida Wildlife Federation, et al. v. Carol Browner, et al., No. 4: 98CV356-WS (N.D. Fla., Tallahassee Division, April 22, 1998). EPA is not ignoring the state TMDL process, but the Consent Decree requires EPA to develop TMDLs by date certain, if the state has not already established such TMDLs.

23. **Comment:** In developing the target using an ecoregion approach, EPA needs to exclude data collected in Ecoregion 76a as this area is not representative of the tributaries north of the lake.

Response: EPA's final TP target for the tributaries is based on reference stream data collected in the Central Peninsula Bioregion. This bioregion does not include Ecoregion 76a. EPA's final TN target is based on reductions necessary to meet downstream uses in the St. Lucie estuary. This approach did not rely on data collected in Ecoregion 76a.

24. **Comment:** The landuse modeling tool (PLOAD) used to derive the numerical targets is too simplistic and has numerous errors.

Response: The intent of using the PLOAD model to derive numeric targets was to compare results from a simplistic approach to those calculated using water quality data. Results from the PLOAD modeling tool were not used to set nutrient targets in the final TMDL. The final TP target is based only on reference streams as provided by FDEP and the TN target is protective of downstream uses.

25. **Comment:** FDEP proposed delisting requests for Dissolved Oxygen (DO) in WBIDs 3186B and 1436 yet EPA is proposing TMDLs for these waters.

Response: FDEP has not formally submitted its delisting requests for waters in the Group 4 basin for which the WBIDs in question are located. EPA cannot approve a list that has not been

submitted; therefore, the basis of the originally listing remains until EPA is formally requested to act on the issue. At the time the TMDLs were prepared, EPA did an independent assessment of the data collected in the waterbody to determine whether a TMDL was needed. Based on the data included in IWR Run 24 (the most current database FDEP had at the time the TMDLs were being developed), EPA concluded that the waters were impaired for DO and a TMDL was necessary.

26. **Comment:** The Waste Load Allocation (WLA) assigned to the City of Clewiston is difficult to meet through the application of Best Available Technology that is Economically Feasible (BATEA).

Response: EPA is finalizing a TMDL for WBID 3246 that allocates an annual average load at the pump station in the S-4 Basin. The TMDLs for WBID 3246 only addresses back pumping into Lake Okeechobee and does not establish instream targets that are protective of the WBID. In addition, the TMDL does not allocate a WLA for the City of Clewiston. EPA proposed the TMDL for WBID 3246 in advance of Consent Decree requirements. Based on public comments, EPA concluded it would be more appropriate to finalize this WBID once FDEP establishes the TMDL for the Caloosahatchee Estuary. The TMDL for WBID 3246 is due in September 2012.

27. **Comment:** The use of the Redfield Ratio is an inappropriate method for deriving the nitrogen TMDLs because the classic ratios are generally valid for oceans and large lakes, but not for small bodies of waters such as the Lake Okeechobee tributaries. The TN TMDL target was derived by simply multiplying the TP TMDL target concentration by 16 (the Redfield Ratio of 16:1).

Response: The purpose of the Redfield Ratio analysis in the TMDL report was to provide a general statement about the frequency of time data collected in the tributaries were phosphorus limiting, nitrogen limiting or co-limiting. If the frequency of phosphorus limiting was greater than 90 percent, it was not necessary to control nitrogen to achieve the nutrient criterion. The TN target concentration was calculated using the same three independent approaches used to calculate the TP target concentration. It is only by coincidence that multiplying the TP target of 0.077 mg/L by 16 approximates the TN target of 1.2. EPA is finalizing a TP target of 113 ppb for the tributaries and if this was multiplied by 16 the resulting TN concentration would be 1.8 mg/l. This value is much higher than the TN concentration in the final TMDL of 1.2 mg/l.

28. **Comment:** FDEP in May 2007 submitted a document entitled *Technical Support Document: Derivation of the Numeric Nutrient Thresholds for Total Nitrogen and Total Phosphorus in the Lake Okeechobee Tributaries.* In this document, FDEP proposes an alternative method to derive nutrient targets for the tributaries that they believe represents an appropriate interpretation of the Florida's narrative criterion for nutrients. The state of Florida determined that TP concentrations representing the 75^{th} and 90^{th} percentile of data collected at reference sites are in the range of 84 ppb to 128 ppb and TN concentrations in the range of 1.3 mg/L and 2.0 mg/L are protective of the native flora or fauna. FDEP is confident that nutrient concentrations in these ranges are fully protective.

Response: EPA considers the information contained in the Technical Support document as having technical merit and is finalizing the TMDLs using a TP concentration of 113 ppb. The TN target of 1.2 mg/L is based on the target FDEP is considering for the St. Lucie Estuary. See response to comment #1 for more detail on the derivation of the final nutrient targets.

29. **Comment:** The TMDL for phosphorus has been set by Florida's Lake Okeechobee Protection Plan at 40 ppb for the lake itself. Therefore, it seems completely nonsensical to me that the USEPA is proposing TMDLs for phosphorus in these tributaries that flow into the lake at 77 ppb. How will the levels of phosphorus magically drop to 40 ppb once the water reaches the lake? They will not. The proposed TMDL of 77 is not acceptable. Likewise, the TMDL for nitrogen in the tributaries is recommended to be set at a more lenient level than it is in the lake. EPA needs to go back to the drawing board.

Response: The TMDL target concentrations established for the tributaries are at levels that will achieve WQS in the tributaries. The TMDL also assigns loads to the pour point of each LOPP basin which are consistent with the allocations set out in the LOPP and which will meet the loads allocated in the Lake Okeechobee nutrient TMDL. EPA anticipates that any further reductions in nutrients necessary to meet the LOPP allocations will be achieved through the treatment options proposed in the LOPP. For example, for some WBIDs, the target TP instream concentration is set at a level that would result in a higher load than allocated at the pour point, absent intervening treatment see Table 3 in the TMDL report). Before the water discharging from the impaired tributaries will flow into Lake Okeechobee, however, EPA anticipates that it will be routed through a STA or reservoir in order to meet the loading required in the Lake Okeechobee TMDL. Other impaired WBIDs have TP concentrations that are much lower than those assigned to the LOPP basins and as a result additional BMPs will be needed in these WBIDs to achieve the tributaries TMDLs.

30. **Comment:** For the Class III canals (Miami, North New River, Hillsboro and West Palm Beach) the EPA cannot define natural populations since these canals are wholly man-made and do not have natural populations of flora or fauna. By design, these canals are water conveyance structures rather than natural rivers or streams. Furthermore, FDEP has documented that the fauna found in canals in south Florida are uncorrelated to water quality. Given EPA's failure to show any direct relationship between the TMDL target concentration and any measurement of flora or fauna, we believe the proposed TMDL is arbitrary and capricious.

Response: As set out above, EPA is not establishing TMDLs for the Class III canals in the EAA at this time. EPA plans to establish these TMDLs with those proposed in September 2007 for the Everglades.

31. **Comment:** We ask that EPA retract its proposed TMDLs and allow FDEP to develop appropriate TMDLs for the region using methodologies that are consistent with those that have been used in other parts of the state. Using the process outlined in the Florida Watershed Restoration Act, we believe that science-based TMDLs can be established in a reasonable time frame and that this can be accomplished with the support of affected stakeholders who will be expected to achieve the established water quality goals.

Response: The Florida TMDL Consent Decree requires EPA to establish TMDLs by a date certain, unless the state of Florida establishes TMDLs before that date. EPA has proposed and is finalizing TMDLs for the tributaries draining to Lake Okeechobee to be in compliance with the Consent Decree. EPA is finalizing the TMDLs for the tributaries using a reference stream approach referenced in the proposal and refined by FDEP in their comments on these TMDLs. FDEP's approach to nutrient targets are consistent with those that have been used in other parts of the state, and EPA believes these new targets result in science-based TMDLs. The Florida Watershed Restoration Act is one possible mechanism FDEP could use to implement the TMDLs for Lake Okeechobee and the tributaries draining to the lake.

32. **Comment:** There are numerous errors in the data used to derive the nutrient targets. For example, there are 6 long-term Lake Okeechobee inflow sites that were excluded in the Basin TMDL calculations based on IWR Run 28 that should have been included, and there were 78 sites in the Upper East Coast Basin included in the analysis but these sites drain to Indian River Lagoon and not Lake Okeechobee. Other sites that were included in the analysis include 3 rainfall sites, 20 groundwater sites, and 10 open water sites. Inclusion of these stations, especially with any justification, invalidates the TMDL calculation, rendering it arbitrary and capricious.

Response: EPA is not finalizing the TMDLs using a percentile approach from an all-streams dataset. The approach used to derive the TP target in the final TMDLs is based on FDEP's reference stream approach. FDEP verified all water quality data collected in the individual reference streams were verified before using the data to derive the nutrient targets. The state of Florida has an EPA-approved QAPP for its ambient monitoring program and EPA assumes that the data compiled in the IWR run was checked for accuracy. The TN target in the final TMDLs is selected to protect downstream uses. Additional detail on the derivation of the TN target can be found in Appendix B of the TMDL report.

33. **Comment:** Florida Wildlife Federation (FWF), Save Our Creeks, Inc. (SOC) and Environmental Confederation of Southwest Florida, Inc. (ECOSWF) support EPA's proposed TMDLs for the tributaries to Lake Okeechobee. The validity of this number (77 ppb total phosphorus) is further verified by the TMDL number (73.5 ppb total phosphorus) determined by our own expert in the administrative litigation in which we successfully challenged FDEP's attempt to set a total phosphorus TMDL for these tributaries of 159 ppb total phosphorus. FWF, SCO, and ECOSWF do not support EPA's use of FDEP's new methodology for determining the TMDL for Lake Okeechobee tributaries nor do they support TMDL numbers derived using this methodology.

Response: EPA considers FDEP's new methodology for determining nutrient targets to have considerable technical merit and based upon the information currently available, accepts FDEP's demonstration that the TP concentrations projected from the process are protective of aquatic life in streams of the Central Peninsula Bioregion. FDEP's new approach to nutrient target development verified the reference streams in the field with site specific biological monitoring. The final TMDLs are based on TP and TN concentrations of 113 ppb and 1.2 mg/l, respectively and these are considered protective of flora or fauna in the tributary, or near field. The TN target

is consistent with the target EPA proposed in the St. Lucie TMDL and more recent work conducted by FDEP for target development in the St. Lucie Estuary (FDEP, 2008). To ensure protection of downstream waters (i.e., far-field effects) the tributaries TMDLs allocate loadings at the pour points of the WBID(s) consistent with the TP loadings provided in the LOPP. In many of these WBIDs the instream TP concentration of 113 ppb is more stringent than the LOPP target concentration based on load. For example, the LOPP target concentration based on load for the Taylor Creek Nubbin Slough basin is 151.22 ppb but additional BMPs than those prescribed in the LOPP will be needed to achieve the instream TP target of 113 ppb. FDEP has plans to route water discharging from many of the LOPP basins through stormwater treatment areas and/or reservoirs prior to flowing into the lake. This should ensure that the load achieved at the pore points of the WBID(s) comprising an LOPP basin will meet the Lake Okeechobee TMDL.

34. **Comment:** EPA should include and reference important reports relevant to development of this TMDL.

Response: EPA has cited references used directly in the development of the TMDL. The document is not intended to be a comprehensive report on the history of the tributaries. The final TMDL report will include a more thorough reference section, as appropriate.

35. **Comment:** Reliable historic data should also be used in EPA's weight of evidence approach, particularly where the data correlates nutrient levels at impaired sites to historic data from the site before impairment.

Response: The Odum report the commenter is referring to was discussed in the TMDL document under the report section entitled "Previous Studies in the Lake Okeechobee Watershed." The historic data presented in the Odum report is from a limited number of sampling events and is not comparable to water quality data collected in the reference streams due to changes in analytical methods and sampling methodology. EPA believes the TP and TN targets selected in the final TMDLs are an appropriate interpretation of Florida's narrative WQS for nutrients.

36. **Comment:** EPA misstates the facts concerning the Everglades Agricultural Area.

Response: EPA is not finalizing the TMDLs for the EAA but will note the corrections in future TMDL documents concerning WBIDs in this area.

37. **Comment:** EPA should include in its weight of evidence approach the analysis and findings of FWF's water quality expert who determined that an appropriate TMDL for the tributaries would be 73.5 ppb using EPA's approved 25th percentile reference stream approach.

Response: EPA is not finalizing the TMDLs using nutrient targets derived using an approach based on a percentile of an all streams dataset. EPA believes FDEP has provided sufficient documentation on their reference streams in the Central Bioregion to consider their TP target of 113 ppb protective of flora or fauna in the tributaries, and the TN target of 1.2 mg/L is protective of downstream uses.

38. **Comment:** EPA should not use the total phosphorus value obtained through FDEP's analysis as the total phosphorus or total nitrogen TMDL in its final rule nor should it rely upon this method for targeting a proposed TMDL number to the exclusion of all other methods.

Response: See response to comment #33. Depending on the outcome of FDEP's criteria development process, it may be necessary to revise the TMDLs for the tributaries to ensure consistency with numeric water quality criteria.

39. **Comment:** A federal district court, in a case in which the U.S., on behalf of EPA and the Corps of Engineers, is a party, held that the S-2, S-3, and S-4 pump stations require NPDES permits. As point sources, these structures will require a wasteload allocation.

Response: The court decision referenced in the comment is currently on appeal to the 11th Circuit Court. EPA's interpretation of the CWA and its implementing regulations is that NPDES permits are not required for these pump stations as these pumps are solely for the transfer of water with no commercial use.

40. **Comment:** The implementation of the proposed TMDLs will divert critical state dollars to onsite treatment activities that would be far more costly and far less effective than the regional public works facilities, which combined with achievable BMPs can meet the water quality objectives that EPA is proposing.

Response: TMDL implementation is the responsibility of the state of Florida. The strategies discussed in the TMDL report are consistent with those FDEP and the SFWMD cite in the LOPP. Edge-of-field treatment activities and other onsite implementation strategies are necessary to control pollutant loads at the source.

41. **Comment:** The fact that an entirely new data set is being utilized by EPA so close to the deadline for the receipt of public comments has resulted in an inability for the public to meaningfully participate or respond to your proposal. We cannot provide a meaningful comment if we do not know what is in the database used by the EPA to establish the TMDLs.

Response: FDEP routinely updates the IWR database as new water quality data become available. The public can access this database through the internet. EPA kept the TMDL open for public comment for 8 months and during that time period responded to FOIA as well as informal requests for the data. EPA believes 8 months was sufficient time for the public to respond to the proposal and this was evident by the volume of comments EPA received on the TMDL.

42. **Comment:** We do not understand why you are applying Class 3 WQS to Class 4 manmade canals north and south of the Lake Okeechobee.

Response: EPA applied Class III water quality standards at the point where the Class IV water discharges into the Class III water and not to the canal itself. Water discharging from upstream

waters (in this case, Class IV canal) cannot cause or contribute to a downstream impairment. The TMDLs apply to the Class III waters in the impaired WBIDs.

43. **Comment:** After years of advanced-treated wastewater effluent (ATE) flows and a concomitant reduction in stream TP concentrations, there has been little change in the macroinvertebrate assemblages at Reedy Creek We believe that the differences in the macroinvertebrate metrics are primarily attributable to habitat.

Response: Comment noted. EPA is not finalizing a TMDL for Reedy Creek.

44. **Comment:** There are no incremental benefits to chlorophyll a, cyanophyte biomass, or TP when load reductions occur for TN.

Response: Reductions in TN are required in the tributaries for the following reasons: 1) to provide control of excess primary productivity at time and places in the system where nutrient limitations is co-limiting or nitrogen-limiting; 2) to address the low dissolved oxygen impairments in the listed tributaries; and 3) to ensure protection of the downstream estuaries.

45. **Comment:** EPA has failed to consider different nutrient dynamics and impacts in canals and channelized waters.

Response: EPA acknowledges that nutrient dynamics may be different in canals and channelized waters; however, the impaired canals are classified as Class III waters and as such targets are developed to protect this classification of freshwaters (i.e., rivers and streams). EPA states in the final document that site specific alternative criteria (SSAC) may be required to address DO in channelized waters.

46. **Comment:** EPA should use a more reasonable approach in the development and implementation of the TMDLs. If the TMDL is implemented, it will lead to more uncontrolled growth and compound the situation. The beef cattle farmers will be forced to go to more intensive land uses because the economic return from cattle ranching and required investment of water control structures will be insurmountable for beef cattle operations.

Response: The approach used to develop a TP target in the final TMDLs is based on FDEP's ongoing criteria development process and the TN target is considered protective of downstream uses. EPA considers FDEP's approach to have considerable technical merit. Implementation of these TMDLs will be consistent with the activities prescribed in the LOPP. Farmers in the watershed are encouraged to incorporate source control strategies and edge-of-field BMPs to reduce the nutrient loadings from improved pastures. The landuse practices employed in the watershed cannot be allowed to cause or contribute to a downstream impairment. Sources that contribute nutrient loadings in excess of the TMDL are in violation of the Clean Water Act.

47. **Comment:** Reductions in nutrient levels are unlikely to result in significant improvements in canal aquatic flora or fauna.

Response: Based upon the best data and information currently available, the nutrient targets in the TMDLs are considered protective of aquatic flora or fauna within the impaired WBIDs. Canals that are classified as Class III waters may require a SSAC acknowledging that natural conditions within those canals will never attain the statewide DO criterion.

48. **Comment:** The EPA fails to establish a link or causal relationship between numeric targets and proposed TMDLs, i.e. assimilative capacity for each WQLS.

Response: In the approach FDEP is currently using for nutrient criteria development and piloted in this TMDL, causal nutrient variables are correlated with biology in streams with minimal disturbance to project protective values. This approach can be expected to capture the relationship between nutrient targets and biological response. FDEP is confident the native flora or fauna are fully protective with the ranges of nutrient concentrations observed in the reference streams. The derivation of the TN target incorporates assimilative capacity between the tributaries and downstream St. Lucie estuary.

49. **Comment:** The TMDL document contains editorial errors and technical deficiencies.

Response: The editorial errors and technical deficiencies identified in many of the public comments were addressed to the maximum extent possible to improve the readability of the report. It is not possible to list every editorial error identified in these comments as many are no longer applicable or are considered minor (e.g., punctuation, grammar, etc).

50. **Comment:** The BOD target for WBID 3186B is not valid. High BOD in the Kissimmee River is attributed to soils (natural condition) and not anthropogenic sources; therefore, a TMDL should not be required.

Response: EPA considers the approach used to develop the BOD target conservative. The commenter acknowledges low-intensity cattle grazing occur in the WBID and cattle are considered an anthropogenic source that has the potential to contribute high BOD concentrations. To address the DO impairment in this WBID, EPA is allocating loads to BOD and not nutrients in order to achieve the designated use. The BOD and DO data used in the analysis included only those samples where valid BOD and DO samples were collected on the same date and depth. DO and BOD data did not show significant variations when collected at varying depths. BOD samples that had negative values or laboratory remark codes indicating issues with the analytical results were excluded from the analysis. Data collected at three of the nine sampling events were excluded because of invalid BOD data. The commenter noted that the correlation was unduly influenced by a single high BOD value, without which there would be no relationship. The analysis was re-evaluated without this and other data not collected at uniform depths and a correlation was found validating the relationship between DO and BOD. In the revised analysis the percent reduction is about 25% which is comparable to the value in the final TMDL (38%).

References:

FDEP, 2008. Nutrient Targets for the St. Lucie Estuary, Florida Department of Environmental Protection Memorandum to Drew Bartlett from Kristina Laskis, Rob McTear, and Keith Parmer, June 3, 2008.

FDEP, 2007. Technical Support Document: Derivation of the Numeric Nutrient Thresholds for Total Nitrogen and Total Phosphorus in the Lake Okeechobee Tributaries, May 2007.

SFWMD, 2008. Email communication between M. Temperince, SFWMD and D. Scheidt, EPA Region 4, regarding Lake Okeechobee Nutrient Control Efforts, email correspondence dated June 9, 2008.

SFWMD, 2004. Lake Okeechobee Protection Plan (LOPP), South Florida Water Management District, Florida Department of Environmental Protection, and Florida Department of Agriculture and Consumer Affairs. January 1, 2004.